

**Nucleic Acid Encoding Homologs of  
Human Telomerase Reverse Transcriptase**

USSN 09/721,506

Docket 018/210c

***Proposed amendments***

**1 to 74. CANCELLED**

75. An isolated, synthetic, substantially pure, or recombinant polynucleotide comprising a nucleic acid sequence that encodes a telomerase reverse transcriptase (TRT) protein, or the exact complement of said nucleic acid sequence;  
wherein said TRT protein is identified by the criteria that it has telomerase catalytic activity when complexed with a telomerase RNA, and contains an amino acid sequence that is at least 80% identical to the full length of SEQ. ID NO:2.
76. The polynucleotide of claim 75, comprising a promoter sequence operably linked to the sequence that encodes the protein.
77. An isolated cell comprising the recombinant polynucleotide of claim 75.
78. The cell of claim 77, which is a eukaryotic cell.
79. CANCELLED
80. (Withdrawn) A method of increasing the proliferative capacity of a cell in vitro, comprising expressing in the cell a polynucleotide according to claim 75.
81. CANCELLED
82. CANCELLED
83. An isolated, synthetic, substantially pure, or recombinant polynucleotide comprising a nucleic acid sequence that encodes a TRT protein, or the exact complement of said nucleic acid sequence;  
wherein said TRT protein is identified by the criteria that it has telomerase catalytic activity when complexed with a telomerase RNA, and contains an amino acid sequence that is at least 90% identical to the full length of SEQ. ID NO:2.
84. The polynucleotide of claim 83, comprising a promoter sequence operably linked to the sequence that encodes said TRT protein.
85. An isolated cell comprising the recombinant polynucleotide of claim 83.
86. The cell of claim 85, which is a eukaryotic cell.

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87. **CANCELLED**

88. *(Withdrawn)* A method of increasing the proliferative capacity of a cell *in vitro*, comprising expressing in the cell a polynucleotide according to claim 83.

89-90. **CANCELLED**

~~91. *(Currently amended)* An isolated, synthetic, substantially pure, or recombinant polynucleotide comprising a nucleic acid sequence that encodes a TRT protein, or the exact complement of said nucleic acid sequence;~~

~~wherein said TRT protein has telomerase catalytic activity when complexed with a telomerase RNA, and contains an amino acid sequence that is at least 80% identical to 500 contiguous amino acids in SEQ. ID NO:2.~~

~~92. The polynucleotide of claim 91, comprising a promoter sequence operably linked to the sequence that encodes said TRT protein.~~

~~93. An isolated cell comprising the recombinant polynucleotide of claim 91.~~

~~94. The cell of claim 93, which is a eukaryotic cell.~~

~~95. **CANCELLED**~~

~~96. *(Withdrawn)* A method of increasing the proliferative capacity of a cell, comprising expressing in the cell a polynucleotide according to claim 91.~~

97 to 100. **CANCELLED**

101. The polynucleotide of claim 75, wherein said TRT protein contains a sequence that is at least 95% identical to ~~400 contiguous amino acids in~~ the full length of SEQ. ID NO:2.

102. The polynucleotide of claim 75, wherein said TRT protein contains a sequence that is at least 98% identical to ~~400 contiguous amino acids in~~ the full length of SEQ. ID NO:2.

~~103. The polynucleotide of claim 75, wherein said TRT protein contains a sequence that is at least 95% identical to 500 contiguous amino acids in SEQ. ID NO:2.~~

~~104. The polynucleotide of claim 75, wherein said TRT protein contains a sequence that is at least 98% identical to 500 contiguous amino acids in SEQ. ID NO:2.~~

105. *(New)* An isolated, synthetic, substantially pure, or recombinant polynucleotide comprising a nucleic acid sequence that encodes at least 100 contiguous amino acids of SEQ. ID NO:2, which is immunogenic for an antibody against SEQ. ID NO:2.

106. *(New)* An isolated, synthetic, substantially pure, or recombinant polynucleotide comprising a nucleic acid sequence that encodes a protein that is at least 95% identical to full-length SEQ. ID NO:2, which is immunogenic for an antibody against SEQ. ID NO:2.

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